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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/525,867 | 03/15/2000 | Henry Yue | PF-0678US | 9574 |

27904 7590 02/24/2003

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| EXAMINER | |
|---|---|
| RAMIREZ, DELIA M | |
| ART UNIT | PAPER NUMBER |
| 1652 | |

DATE MAILED: 02/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. 09/525,867 | Applicant(s) YUE ET AL. | |
|---|---|---|---|
| | Examiner Delia M. Ramirez | Art Unit 1652 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *12 June 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *3-6,8,10-14 and 23-36* is/are pending in the application.

4a) Of the above claim(s) *10-14,23,26-30 and 32-36* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *31* is/are rejected.

7)☒ Claim(s) *3-6,8,24 and 25* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Status of the Application*

Claims 3-6, 8, 10-14, 23-36 are pending.

Applicant's cancellation of claims 1, 2, 7, 9, 15, addition of claims 31-36 and amendment of claims 3, 8, 10, 24, 28, 30, in Paper No. 12, filed on 6/12/2002 is acknowledged.

Applicants have reiterated their arguments in regard to rejoinder of claims 12-14, 23, 26, 27, 29 and newly added claims 32-36, since according to Applicants, they are drawn to methods of use of the product being examined. Applicant's request is acknowledged and upon allowance of the product claims, as set forth in 35 USC 103(b), the rejoinder of method claims covering the same scope of products will be considered.

It is noted that newly added claims 32-36 are drawn to non-elected inventions. Also, claims 10, 11, 28 and 30 as amended are no longer partially drawn to the elected invention, the polynucleotide of SEQ ID NO: 9, but rather to non-elected inventions, i.e. the polynucleotides of SEQ ID NO: 10-16. Claims 10, 11-14, 23, 26-30, 32-36 are withdrawn from further consideration by the Examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.

### *Priority*

1. Acknowledgment is made of a claim for domestic priority under 35 U.S.C. 119(e) to provisional application No. 60/124,655 filed on 03/16/1999.

***Claim Objections***

2. Claims 3-6, 8 and 24-25 are objected to because the instant claims are partially drawn to non-elected inventions. The instant claims will be interpreted and examined as being directed to the elected invention only, which in this case is the polynucleotide of SEQ ID NO: 9 or the polynucleotide encoding the polypeptide of SEQ ID NO: 1. Appropriate correction is required.

3. Claims 5-6, 8, 24 are objected to because of the following informalities, for clarity, the term "a polynucleotide of claim #" should be replaced with "the polynucleotide of claim #" since these polynucleotides have been previously defined. Appropriate correction is required.

***Claim Rejections - 35 USC § 112, First Paragraph***

4. Claim 31 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 31 is directed to a genus of naturally-occurring polynucleotides encoding polypeptides of any function wherein the polynucleotides are at least 80% sequence identical to the polynucleotide of SEQ ID NO: 9. While the specification does not specifically define the intended meaning of the term "naturally-occurring", one of skill in the art would interpret such term as meaning "as found in nature", which is the case with allelic variants. The specification defines an "allelic variant" (pages 6-7) as an alternative form of the gene which may result in at least one mutation in the nucleic acid sequence. Alleles may result in altered mRNAs or polypeptides whose structure or function may or may not be altered. This definition does not

provide any specific information about the structure of naturally occurring variants (alleles) of the polynucleotide of SEQ ID NO: 9 as recited in the claim (i.e. where are the regions within which mutations are likely to occur). There is no description of the mutational sites that exist in nature and there is no description of how the structure of the polynucleotide of SEQ ID NO: 9 relates to the structure of any naturally-occurring variant. The general knowledge in the art concerning a naturally occurring variant, such as an allele, does not provide any indication of how a naturally-occurring variant is representative of unknown naturally-occurring variants. In the case of alleles, there is no indication in the art that would suggest that the structure of one provides guidance to the structure of others. In addition, the disclosure fails to provide any information as to the critical structural elements a naturally-occurring polynucleotide should have to encode a PSST subunit of the NADH:ubiquinone oxidoreductase complex.

While one of skill in the art could argue that the claimed genus of polynucleotides is adequately described since one can isolate these polynucleotides by sequence comparison using the polypeptide/polynucleotide structures disclosed in the instant application or the prior art, the state of the art teaches that sequence comparison alone should not be used to determine a protein's function and that small amino acid changes can drastically change the function of a polypeptide. Bork (Genome Research, 10:398-400, 2000) teaches protein function is context dependent, and both molecular and cellular aspects must be considered (page 398). Van de Loo et al. (Proc. Natl. Acad. Sci. 92:6743-6747, 1995) teaches that polypeptides of approximately 67% homology to a desaturase from *Arabidopsis* where found to be hydroxylases once tested for activity. Seffernick et al. (J. Bacteriol. 183(8):2405-2410, 2001) teaches that two naturally occurring Pseudomonas enzymes having 98% amino acid sequence identity catalyze two

different reactions: deamination and dehalogenation, therefore having different function. Broun et al. (Science 282:1315-1317, 1998) teaches that as few as four amino acid substitutions can convert an oleate 12-desaturase into a hydrolase and as few as six amino acid substitutions can transform a hydrolase to a desaturase. . The genus of polynucleotides comprised by the claim is a large variable genus which can potentially encode proteins of diverse functions. The specification only discloses a single species of the genus, i.e. the polynucleotide of SEQ ID NO: 9, which is insufficient to put one of ordinary skill in the art in possession of all attributes and features of all species within the genus. Thus, one skilled in the art cannot reasonably conclude that Applicant had possession of the claimed invention at the time the instant application was filed.

5. Claim 31 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the polynucleotide of SEQ ID NO: 9 or a polynucleotide encoding the polypeptide of SEQ ID NO: 1, does not reasonably provide enablement for a naturally-occurring polynucleotide which encodes any polypeptide of any function, wherein the polynucleotide is at least 80% sequence identical to the polynucleotide of SEQ ID NO: 9. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

The criteria for undue experimentation, summarized in *re Wands*, 8, USPQ2nd 1400 (Fed. Cir. 1988) are: 1) quantity of experimentation necessary, 2) the amount of direction or guidance presented, 3) the presence and absence of working examples, 4) the nature of the

invention, 5) the state of prior art, 6) the relative skill of those in the art, 7) the predictability or unpredictability of the art, and 8) the breath of the claims.

The scope of the claim is not commensurate with the enablement provided in regard to the large number of naturally-occurring polynucleotides encoding proteins of different functions which have not been described and for which there is no specific use disclosed, as encompassed by the claim. The specification discloses one polynucleotide encoding a human PSST NADH:ubiquinone reductase subunit but there is no disclosure of the function of other naturally-occurring polynucleotides having at least 80% sequence identity to the polynucleotide of SEQ ID NO: 9. As indicated above, the claim encompasses polynucleotides which can potentially encode proteins of diverse function. While one could argue that one of skill in the art would know how to use a human PSST NADH:ubiquinone, the specification fails to provide any guidance as to how one of skill in the art can (1) determine other functions for the claimed polynucleotides, and (2) how to use those polynucleotides without undue experimentation. The state of the art clearly teaches the unpredictability of determining function of structural homologs based on sequence homology. See the teachings of Bork (Genome Research, 10:398-400, 2000), Broun et al. (Science 282:1315-1317, 1998), Van de Loo et al. (Proc. Natl. Acad. Sci. 92:6743-6747, 1995) and Seffernick et al. (J. Bacteriol. 183(8):2405-2410, 2001) already discussed. Therefore, due to the lack of relevant examples, the amount of information provided, and the unpredictability of the prior art in regard to function based on homology, one of ordinary skill in the art would have to go through the burden of undue experimentation in order to (1) determine the function of those polynucleotides as encompassed by the claims and (2) how to use such polynucleotides. Thus, Applicant has not provided sufficient guidance to enable one of ordinary

skill in the art to make and use the invention in a manner reasonably correlated with the scope of the claims.

6. This rejection was previously applied to claims 3, 10, 11, 28 and 30 and has been discussed at length in the previous Office Action Paper No. 9.

7. In regard to claims 3, 11, 28 and 30, Applicants argue that the amendments to these claims would render such rejections moot. In regard to claim 10, Applicants argue that the specification discloses the polynucleotide of SEQ ID NO: 9 and the corresponding polypeptide of SEQ ID NO: 1, variants of the polypeptide of SEQ ID NO: 1 and the polynucleotide of SEQ ID NO: 9, chemical and structural features of the polynucleotide of SEQ ID NO: 9 and the polypeptide of SEQ ID NO: 1 and how to find naturally occurring analogs and homologs in other individual and species. Therefore, the disclosure satisfies the requirements under 35 USC 112, first paragraph in regard to how to make the claimed invention. Applicants also argue that the specification discloses several practical and beneficial uses for the claimed polynucleotide variants in toxicology testing, drug development and diagnosis of disease. In view of the benefits provided by these uses, it is Applicant's opinion that the claimed invention already enjoys significant commercial success. Applicants submit references by Steiner et al. (Toxicology Letters 112-113:467-471, 2000), Rockett et al. (Xenobiotica 29:655-691, 1999), Nuwaysir et al. (Molecular Carcinogenesis 24:153-159, 1999), Rockett et al. (Environ. Health Perspec. 107:681-685, 1999) as evidence of the state of the art in regard to toxicology testing, its use in the pharmaceutical industry, and the genes/nucleic acids which are incorporated in toxicology testing. Applicants also submit an e-mail from Dr. Cynthia Afshari to an Incyte

employee to support the argument that any gene is relevant for screening of toxicological effects. Furthermore, Applicants submit examples of Incyte collaborators or customers who have been able to obtain benefits from the information provided by Incyte's databases. It is Applicant's opinion that in view of the arguments and/or evidence presented, enablement rejections in regard to claim 10 should be withdrawn and that such rejection should not apply to newly added claim 31.

8. It is noted that in view of the amendment of claim 3, items (b) and (c) have not been considered or examined since they refer to non-elected inventions in their entirety. Similarly, claims 10-11, 28 and 30 have been withdrawn from consideration as indicated above since they are directed to non-elected inventions in their entirety. In regard to item (a), the Examiner has interpreted claim 3 to be directed only to a polynucleotide encoding the polypeptide of SEQ ID NO: 1. since item (a) is partially drawn to non-elected inventions. In view of the fact that claims 10-11, 28 and 30 are no longer directed to subject matter elected, and claim 3 (and claims dependent therefrom), as interpreted is directed solely to a polynucleotide encoding the polypeptide of SEQ ID NO: 1, the enablement rejection as it applies to claims 3, 10-11, 28 and 30 is hereby withdrawn.

9. Applicant's arguments have been fully considered but are not deemed persuasive to avoid the rejection applied to newly added claim 31 in the instant Office Action. As indicated in the rejection of claim 31 discussed above, the scope of the claim encompasses naturally-occurring polynucleotides of any function. The specification discloses one polynucleotide which encodes a PSST subunit of the NADH:ubiquinone oxidoreductase complex. Thus, only one function has been disclosed for one of the polynucleotides encompassed by the claims. There is potentially a

large number of different functions associated with the polypeptides encoded by the claimed polynucleotides. While it is agreed that making polynucleotide variants is routine in the art, a skilled artisan would not consider the determination of function and how to use polynucleotides of unknown function routine experimentation when there is no knowledge or guidance provided.

The Examiner acknowledges Applicant's arguments in regard to the use of polynucleotides in toxicology testing, drug development and disease diagnosis, however, it is noted that the specification fails to disclose the specific diseases, conditions and/or biological processes associated with the expression of naturally-occurring polynucleotides encoding proteins of any function as encompassed by the claim. Furthermore, the specification fails to disclose which are the expression levels associated with a particular disease/condition or which mutations in the claimed polynucleotides are indicative of a disease and/or condition. As such, it is unclear how the claimed polynucleotides can be used as disease markers or as target for drug discovery or toxicology testing.

While it is agreed that in general any polynucleotide, including the claimed polynucleotides, can be used to examine differential gene expression in drug metabolism and toxicology, these uses are enabled for a specific polynucleotide only when one of skill in the art is provided with some knowledge or guidance as to the specific diseases, conditions, and/or biological processes which are related to the expression of such polynucleotide. Since the specification does not disclose a correlation between any disease or disorder and an altered level of expression or a mutated form of the claimed polynucleotides, the results of gene expression assays would be meaningless without further research. In regard to evidence of benefits provided by Incyte's databases, while the Examiner acknowledges the benefits that Incyte's

databases and products have provided to its customers, it is noted that the issue being discussed is whether the uses asserted by Applicants for specific polynucleotides met the legal standards for utility and enablement. In regard to arguments of commercial success, it is noted that while a product may enjoy commercial success due to fads or clever advertising it may not meet the legal standards of utility and enablement required for patentability. Therefore, for the reasons discussed, one of skill in the art cannot reasonably conclude that the specification provides sufficient guidance to enable one of skill in the art to make and use the invention in a manner reasonably correlated with the scope of the claims.

### *Claim Rejections - 35 USC § 102*

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claim 31 is rejected under 35 U.S.C. 102(b) as being anticipated by Hyslop et al. (Genomics 37:375-380, 1996).

11. This rejection has been discussed at length in Paper No. 9, mailed on3/12/2002 in regard to claims 3, 5-6, 10-11 and is now applied to newly added claim 31 for the reasons of record.

12. Applicants argue that claims 3 and 10 were amended and claim 31 was added so that they are no longer drawn to polynucleotides encoding fragments of the polypeptide of SEQ ID NO: 1 or encoding polypeptides having at least 90% sequence identity to the polypeptide of SEQ ID NO: 1. Also, Applicants argue that Hyslop et al. does not teach a naturally occurring polynucleotide having at least 80% sequence identity to the polynucleotide of SEQ ID NO: 9. In view of the amendments filed, Applicants assert that Hyslop et al. does not anticipate the claims as written.

13. It is noted that in view of the amendment of claim 3, items (b) and (c) have not been considered or examined since they refer to non-elected inventions in their entirety. Similarly, claims 10-11 have been withdrawn from consideration as indicated above since they are directed to non-elected inventions in their entirety. In regard to item (a), the Examiner has interpreted claim 3 to be directed only to a polynucleotide encoding the polypeptide of SEQ ID NO: 1. since item (a) is partially drawn to non-elected inventions. As such, dependent claims 5 and 6 have been interpreted as being directed to a recombinant polynucleotide comprising a promoter operably linked to a polynucleotide encoding the polypeptide of SEQ ID NO: 1 or to a cell comprising a polynucleotide encoding the polypeptide of SEQ ID NO: 1. Since Hyslop et al. does not teach a polynucleotide encoding the polypeptide of SEQ ID NO: 1 in its entirety, this rejection is hereby withdrawn in regard to claims 3, 5-6 as interpreted. In regard to claim 31, as indicated in previous Office Action Paper No. 9, Hyslop et al. teaches a cDNA (Figure 1, page 376) encoding a polypeptide which has 99.1% sequence similarity and is 99.5% sequence identical (212x100/213) to that of SEQ ID NO: 1. The cDNA of Hyslop et al. as disclosed in Figure 1, page 376 is comprised by the polynucleotide of SEQ ID NO: 9 except for 3 mismatches at positions 68, 644 and 647 of the cDNA of Hyslop et al. An alignment was submitted to Applicants for visualization purposes in Paper No. 9. Since the cDNA of Hyslop et al. contains 648 nucleotides and 3 mismatches, as indicated previously the cDNA of Hyslop et al. is 99.5% sequence identical to the polynucleotide of SEQ ID NO: 9 (824 bp) over the entire length of the polynucleotide of Hyslop et al. (645x100/648). In the absence of information as to how % identity should be calculated and in the absence of a limitation in the claim in regard to

the length of the query, i.e. 648 bp vs 824 bp, the teachings of Hyslop et al. anticipate claim 31 as written.

14. Claims 3, 5-6 were rejected under 35 U.S.C. 102(b) as being anticipated by Arizmendi et al. (FEBS Lett. 301:237-242, 1992; Swiss Prot accession number P42026, November 1995).

15. This rejection was previously discussed in previous Office Action Paper No. 9.

16. Applicants argue that claim 3 has been amended so that it is no longer drawn to polynucleotides encoding fragments of the polypeptide of SEQ ID NO: 1. In view of the amendments filed, Applicants assert that Arizmendi et al. does not anticipate the claims as written.

17. As indicated above, it is noted that in view of the amendment of claim 3, items (b) and (c) have not been considered or examined since they refer to non-elected inventions in their entirety. In regard to item (a), the Examiner has interpreted claim 3 to be directed only to a polynucleotide encoding the polypeptide of SEQ ID NO: 1. since item (a) is partially drawn to non-elected inventions. As such, dependent claims 5 and 6 have been interpreted as being directed to a recombinant polynucleotide comprising a promoter operably linked to a polynucleotide encoding the polypeptide of SEQ ID NO: 1 or to a cell comprising a polynucleotide encoding the polypeptide of SEQ ID NO: 1. Since Arizmendi et al. does not teach a polynucleotide encoding the polypeptide of SEQ ID NO: 1 in its entirety, this rejection is hereby withdrawn in regard to claims 3, 5-6 as interpreted.

***Claim Rejections - 35 USC § 103***

18. Claim 8 was rejected under 35 U.S.C. 103(a) as being unpatentable over Hyslop et al. (Genomics 37:375-380, 1996).

19. This rejection has been discussed at length in previous Office Action Paper No. 9.

20. Applicants argue that since claim 3 as amended does not recite polynucleotides encoding fragments of SEQ ID NO: 1 or encoding polypeptides having at least 90% sequence identity to SEQ ID NO: 1, the teachings of Hyslop et al. do not render claim 8 obvious.

21. As indicated above, in view of the amendment of claim 3, items (b) and (c) have not been considered or examined since they refer to non-elected inventions in their entirety. In regard to item (a), the Examiner has interpreted claim 3 to be directed only to a polynucleotide encoding the polypeptide of SEQ ID NO: 1. since item (a) is partially drawn to non-elected inventions. As such, dependent claim 8 has been interpreted as being directed to a method for producing the polypeptide of SEQ ID NO: 1 with a cell transformed with a polynucleotide which comprises a nucleic acid encoding the polypeptide of SEQ ID NO: 1. Since Hyslop et al. does not teach a polynucleotide encoding the polypeptide of SEQ ID NO: 1 in its entirety, this rejection is hereby withdrawn in regard to claim 8 as interpreted.

22. Claims 28 and 30 were rejected under 35 U.S.C. 103(a) as being unpatentable over Hyslop et al. (Genomics 37:375-380, 1996).

23. This rejection has been discussed at length in previous Office Action Paper No. 9.

24. Applicants argue that since claim 10 as amended does not recite fragments of SEQ ID NO: 9, the teachings of Hyslop et al. do not render claims 28 and 30 obvious.

25. As indicated above, claims 28 and 30 are now drawn to non-elected inventions in their entirety. As such, claims 28 and 30 have been withdrawn from consideration. In view of Applicant's amendment of the instant claims, which are no longer directed to the subject matter elected and examined, this rejection is hereby withdrawn.

***Double Patenting***

26. It is noted that SEQ ID NO: 1 of the instant application has been disclosed in U.S. Application No. 09/488,725 and 10/037,270 as SEQ ID NO: 2769 and 670, respectively. U.S. Application No. 09/488,725, 10/037,270 and the instant application have a common inventor: Yuanhua Tom Tang. No determination has been made as to whether or not double patenting rejections should be applied to claims in the instant application since these applications are not available to the examiner at this time. Applicants should note that if interfering matter is found in Application No. 09/488,725 or 10/037,270, double patenting will not be considered as new ground(s) of rejection.

***Allowable Subject Matter***

27. Claims 3-6, 8, 24-25 appear to be allowable over the prior art of record but are objected to since they recite non-elected subject matter as explained above.

***Conclusion***

28. No claim is in condition for allowance.

29. Applicant's amendment, which added claim 31, necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

30. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

31. Applicants are requested to submit a clean copy of the pending claims (including amendments, if any) in future written communications to aid in the examination of this application.

32. Certain papers related to this application may be submitted to Art Unit 1652 by facsimile transmission. The FAX number is (703) 308-4556. The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 CFR 1.6(d)). NOTE: If Applicant submits a paper by FAX, the original copy should be retained by Applicant or Applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED, so as to avoid the processing of duplicate papers in the Office.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delia M. Ramirez whose telephone number is (703) 306-0288. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Ponnathapura Achutamurthy can be reached on (703) 308-3804. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Delia M. Ramirez, Ph.D.
Patent Examiner
Art Unit 1652

DR
February 13, 2003